

REMARKS

The present Amendment amends claims 2-6, cancels claim 15 and adds new claims 16-18. Therefore, the present application has pending claims 2-6 and 16-18.

Claim 15 stands objected to due to informalities noted by the Examiner in paragraph 5 of the Office Action. As indicated above, claim 15 was canceled. Therefore, this objection is rendered moot. Accordingly, reconsideration and withdrawal of this objection is respectfully requested.

Claims 2, 4-6 and 15 stand rejected under 35 USC §103(a) as being unpatentable over Dabbieri (U.S. Patent No. 6,965,876) in view of Grajo article entitled (“Strategic Layout Planning and Simulation for Lean Manufacturing: A LayOPT Tutorial”) and further in view of Brandeau article entitled (“An Overview of Representative Problems in Location Research”); and claim 3 stands rejected under 35 USC §103(a) as being unpatentable over Dabbieri and Grajo. As indicated above claim 15 was canceled. Therefore, this rejection with respect to claim 15 is rendered moot.

It should be noted that the cancellation of claim 15 was not intended nor should it be considered as an agreement on Applicants part that the features recited in claim 15 are taught or suggested by Dabbieri, Grajo or Brandeau. The cancellation of claim 15 was simply intended to expedite prosecution of the present application.

These rejections with respect to the remaining claims 2-6 are traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 2-6 are not taught or suggested by Dabbieri, Grajo or Brandeau whether taken individually or in

combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims to more clearly describe features of the present invention as recited in the claims. Particularly, amendments were made to the claims to recite that the present invention is directed to a facility management system.

According to the present invention the facility management system includes flow line-measuring means for measuring a flow line of a moving body such as a person or a material by detecting the moving body in a facility to be monitored and outputting flow line information based on the measuring of the flow line and management information generating means for producing management information for management from the flow line information.

Further according to the present invention the management information generating means includes moving means identifying means for identifying each of a plurality of moving means such as an elevator, an escalator or walking for moving the moving body from one location to another location, and movement cost-calculating means for calculating a cost expended on movement of the moving body from one location to another location by the identified moving means based on the flow line information, so that the management information generating means further produce management information for management based on the calculated cost.

Further, according to the present invention the flow line includes a plurality of sections corresponding to each of the plurality of moving means and the movement cost-calculating means calculates for the plurality of

sections a total sum of values as the movement cost, each of the values being calculated by multiplying a time unit price specific to the identified, moving means by a time period required for the movement in the corresponding section, the time unit price is a value corresponding to the cost of moving the moving body per unit of time by the identified moving means and the time period is the length of time it takes to move the moving body along the length of the flow line in the section corresponding to the identified moving means, and the time unit price is provided for each of the moving means based on a difference of a running cost or a maintenance cost of the moving means.

Thus, the present invention as recited in the claims is directed to a system in which a cost needed for moving a moving body such as a person or a material, one to be moved or carried, can be calculated from a flow line of the moving body and information for management can be produced based on the calculated cost. As per the present invention the cost can be determined simply by properly weighing a moving distance and moving time of the moving body. However, when the cost is determined in such a manner, it is difficult to obtain accurate management information such that the maintenance schedule of the facility and the layout modification in the facility may be insufficient, thereby possibly reducing the asset values of the facility. In the present invention, differences in costs for moving the moving body depending on differences in moving means such as an elevator, an escalator and walking are taken into account. As a result, more accurate management information is obtained.

More specifically, in the present invention, the moving means for moving the moving body is identified by “the moving means identifying

means” as defined, the cost needed for moving the moving body by means of the identified moving means are calculated by “the movement cost-calculating means” as defined and management information is produced based on the calculated cost by “the management information generating means”. Thus, as per the present invention since “the time unit price” and “the distance unit price” used for the calculation are provided for each of the moving means based on differences in running cost or maintenance cost of the respective moving means, more accurate management information can be obtained which takes into account the differences between the moving means for moving the moving body.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention as now more clearly recited in the claims are not taught or suggested by Dabbieri, Grajo or Brandeau whether said references are taken individually or in combination with each other as suggested by the Examiner.

Dabbieri discloses flow line-measuring means, management information generating means and movement cost-calculating means. Dabbieri may disclose elements which may be similar to the flow-line-measuring means, the management information generating means and a moving body identifying means as recited in the claims. However, Dabbieri does not teach or suggest the moving means identifying means as recited in the claims.

Grajo discloses the flow line includes a plurality of sections and movement cost-calculating means which calculates for each of the plurality of sections a total sum of values the movement cost, each of the values being calculated by multiplying a time unit price by a time period required for the movement.

Contrary to the Examiner's indication, Grajo does not teach or suggest the movement cost-calculating means for calculating a cost expended on movement of said moving body from one location to another location by the identified moving means based on the flow line information, and the calculation of each of the values by multiplying a time unit price specific to the identified moving means by a time period required for the movement in the corresponding section as in the present invention. Further, Grajo does not teach or suggest that the actual unit cost of moving the parts between the departments varies depending on the moving means used as in the present invention.

Brandeau discloses wherein the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line.

Brandeau does not teach or suggest that the time unit price is a value corresponding to the cost of moving the moving body per unit of the time by the identified moving means and that the time period is the length of time it take to move the moving body along the length of said flow line in the section corresponding to the identified moving means as in the present invention.

However, neither Dabbieri, Grajo nor Brandeau teach or suggest any elements corresponding to the moving means and the identifying means for identifying one of a plurality of moving means for moving said moving body as in the present invention.

Moreover, neither Dabbieri, Grajo or Brandeau teach or suggest that the plurality of sections included in the flow line correspond to the plurality of moving means or that a time unit price to be multiplied by a time period required for the movement is what is specific to one of said plurality of moving means for moving said identified moving body.

The moving means as recited in the claims is means for moving a moving body from one location to another location, wherein the moving body could be an employee working in the facility and the moving means is apparatus which moves the moving body from one location to another location.

For example, as illustrated in Fig. 11 of the present application, the elevator, escalator and walking path correspond to the moving means. Since the running cost and the maintenance cost of the moving means are different depending on its type, accordingly, the costs required for moving the moving body are different depending on the type of moving means used to move the moving body from one location to the next location. For this reason, in the present invention, respective moving means are specified and the cost is calculated depending on the specified moving means, thereby the moving cost of the moving body can be determined extremely accurately.

On the contrary, such features as recited in the claims are not taught or suggested by neither of Dabbieri, Grajo nor Brandeau.

Thus, each of Dabbieri, Grajo and Brandeau fails to teach or suggest flow line-measuring means for measuring a flow line of a moving body such as a person or a material by detecting the moving body in a facility to be monitored and outputting flow line information based on the measuring of the flow line and management information generating means for producing management information for management from the flow line information as recited in the claims.

Further, each of Dabbieri, Grajo and Brandeau fails to teach or suggest the management information generating means includes moving means identifying means for identifying each of a plurality of moving means such as an elevator, an escalator or walking for moving the moving body from one location to another location, and movement cost-calculating means for calculating a cost expended on movement of the moving body from one location to another location by the identified moving means based on the flow line information, so that the management information generating means further produce management information for management based on the calculated cost as recited in the claims.

Still further, each of Dabbieri, Grajo and Brandeau fails to teach or suggest the flow line includes a plurality of sections corresponding to each of the plurality of moving means and the movement cost-calculating means calculates for the plurality of sections a total sum of values as the movement cost, each of the values being calculated by multiplying a time unit price specific to the identified, moving means by a time period required for the movement in the corresponding section, the time unit price is a value corresponding to the cost of moving the moving body per unit of time by the

identified moving means and the time period is the length of time it takes to move the moving body along the length of the flow line in the section corresponding to the identified moving means, and the time unit price is provided for each of the moving means based on a difference of a running cost or a maintenance cost of the moving means as recited in the claims.

Therefore, since each of Dabbieri, Grajo and Brandeau suffers from the same deficiencies relative to the features of the present invention as now more clearly recited in the claims, combining the teachings of Dabbieri, Grajo and Brandeau in the manner suggested by the Examiner, does not render obvious the claimed invention. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 2-6 as being unpatentable over Dabbieri, Grajo and Brandeau is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 2-6 and 15.

As indicated above the present Amendment adds new claims 16-18 which depend from claims 4 and 5. Thus, the same arguments presented above with respect to claims 2-6 apply as well to claims 16-18. Therefore, the features of the present invention as recited in claims 2-6 are not taught or suggested by Dabbieri, Grajo and Brandeau whether said references are taken individually or in combination with each other as suggested by the Examiner.

In view of the foregoing amendments and remarks, applicants submit that claims 2-6 and 16-18 are in condition for allowance. Accordingly, early allowance of claims 2-6 and 16-18 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (503.41022X00).

Respectfully submitted,

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